

REMARKS

In the Office Action the Examiner rejected claims 1-34 pursuant to 35 U.S.C. §102(e) as anticipated by Hall, et al. (U.S. Patent No.6,071,240). Applicants respectfully request reconsideration of the rejections of claims 1-34, including independent claims 1, 13, 16, 27, 30 and 34.

Independent claim 1 recites obtaining data from a plurality of transducer elements across a receive aperture, determining a coherence factor as a function of the data across the receive aperture, and setting a beamforming parameter as a function of the coherence factor.

Hall, et al. do not disclose these limitations. Hall, et al. suppress incoherent data (abstract; and col. 2, lines 25-39). Different delays are applied in the receive beamformer to create coherent and incoherent sums (col. 2, lines 62-67; and col. 6, lines 46-60). The coherent and incoherent sums are then compared (col. 3, lines 1-2; and col. 6, line 61-col. 7, line 1). A suppression signal is output based on the comparison (col. 3, lines 2-10; and col. 7, lines 1-13). The amplitude of the displayed signal is adjusted based on the coherence comparison (col. 3, lines 5-18; col. 7, lines 30-32; and col. 9, lines 1-8). Hall, et al. use different delays to determine coherence, but only adjust signal amplitude (e.g. suppress) based on the coherence. Hall, et al. do not set a beamformer parameter as a function of the coherence factor.

Independent claim 13 recites a beamformer parameter responsive to the coherence factor. Claim 13 is allowable for similar reasons as claim 1.

Independent claim 16 recites setting an image forming parameter as a function of the coherence factor, the image forming parameter being for synthesis, multibeam, a number of sequential beams, a number of sub-apertures, a number of focal zones or combinations thereof.

As noted above, Hall, et al. suppress or change the amplitude based on the coherent and incoherent sum comparison. The coherent sum, incoherent sum, or a combination of both may be used for the image. Hall, et al. do not disclose the image forming parameters of claim 16 being a function of the coherence factor.

Independent claim 30 recites setting dynamic range, a nonlinear filter, or a nonlinear map as a function of the coherence factor. Hall, et al. do not set these parameters as a function of the coherence factor.

Independent claim 34 is allowable for the same reasons as discussed above for claim 30.

Dependent claims 2-12, 14-15, 17-26, 28, and 31-33 depend from one of the independent claims discussed above, so are allowable for the same reasons. Further limitations distinguish from Ustuner, et al.

Claims 3 and 19 recite calculating phase variance across transducer elements. Hall, et al. use beam sum to determine coherence, and do not calculate phase variance.

Claims 5-10, 12, 15, 17, 21-26, and 31-33 all recite specific parameters set as a function of the coherence factor. Hall, et al. may use some of these parameters in general, but do not set them as a function of the coherence factor. Hall, et al. teach a feed-forward system that changes amplitude or not based on coherence.

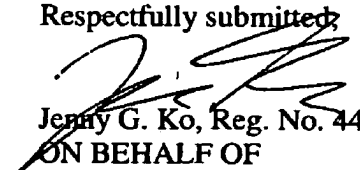
Claim 11 is allowable for the same reason as claim 16.

CONCLUSION

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof. If for any reason, the Examiner is unable to allow the application but believes that an interview would be helpful to resolve any issues, he is respectfully requested to call Craig Summerfield at (312) 321-4726.

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